



## DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Food and Drug Administration  
10903 New Hampshire Avenue  
Document Control Center – WO66-G609  
Silver Spring, MD 20993-0002

VISUS Technology Transfer GmbH  
% Mr. Axel Schreiber  
Vice President Research and Development  
Universitätsstrasse 136  
Bochum 44797  
GERMANY

June 26, 2015

Re: K142750

Trade/Device Name: JiveX

Regulation Number: 21 CFR 892.2050

Regulation Name: Picture archiving and communications system

Regulatory Class: II

Product Code: LLZ

Dated: June 11, 2015

Received: June 15, 2015

Dear Mr. Schreiber:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration. Please note: CDRH does not evaluate information related to contract liability warranties. We remind you, however, that device labeling must be truthful and not misleading.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part 801); medical device reporting (reporting of medical device-related adverse events) (21 CFR 803); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820); and if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801), please contact the Division of Industry and Consumer Education at its toll-free number (800) 638 2041 or (301) 796-7100 or at its Internet address

<http://www.fda.gov/MedicalDevices/ResourcesforYou/Industry/default.htm>. Also, please note the regulation entitled, “Misbranding by reference to premarket notification” (21 CFR Part 807.97). For questions regarding the reporting of adverse events under the MDR regulation (21 CFR Part 803), please go to <http://www.fda.gov/MedicalDevices/Safety/ReportaProblem/default.htm> for the CDRH’s Office of Surveillance and Biometrics/Division of Postmarket Surveillance.

You may obtain other general information on your responsibilities under the Act from the Division of Industry and Consumer Education at its toll-free number (800) 638-2041 or (301) 796-7100 or at its Internet address

<http://www.fda.gov/MedicalDevices/ResourcesforYou/Industry/default.htm>.

Sincerely yours,

A handwritten signature in black ink that reads "Robert A. Ochs". To the left of the signature, there is a faint, semi-transparent watermark or logo that appears to be the FDA seal or logo.

Robert Ochs, Ph.D.  
Acting Director  
Division of Radiological Health  
Office of In Vitro Diagnostics  
and Radiological Health  
Center for Devices and Radiological Health

Enclosure

## Indications for Use

510(k) Number (*if known*)

K142750

Device Name

JiveX

### Indications for Use (*Describe*)

JiveX is a software only Picture Archiving and Communication System intended to display, process, read, report, communicate, distribute, store, and archive medical data which is available as DICOM or HL7 data, including mammographic images, and bio signals. JiveX also converts case related non-image documents, archives them as DICOM data and serves as a vendor neutral archive.

It supports the physician in diagnosis.

For primary image diagnosis in Mammography only uncompressed or non-lossy compressed images must be used. Also monitors (displays) and printers which received FDA clearance for Mammography must be used.

Typical users of this system are trained professionals, including but not limited to physicians, radiologists, nurses, medical technicians, and assistants.

Note: Web-based image distribution and mobile device display are not intended for diagnostic purposes.

### Type of Use (*Select one or both, as applicable*)

Prescription Use (Part 21 CFR 801 Subpart D)

Over-The-Counter Use (21 CFR 801 Subpart C)

### CONTINUE ON A SEPARATE PAGE IF NEEDED.

This section applies only to requirements of the Paperwork Reduction Act of 1995.

#### \*DO NOT SEND YOUR COMPLETED FORM TO THE PRA STAFF EMAIL ADDRESS BELOW.\*

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TRADITIONAL 510(k) PREMARKET NOTIFICATION SUBMISSION

## **510(k) Summary**

**This summary of 510(k) safety and effectiveness information is being submitted in accordance with the requirements of SMDA 1990 and 21 CFR §807.92**

### **General Information**

Manufacturer	VISUS Technology Transfer GmbH, Universitätsstr. 136 44799 Bochum, Germany
Registration Number	3007667119
Contact Person	Axel Schreiber, MD, PhD Vice President R&D Telephone +49 234 93693-0 Email: <a href="mailto:schreiber@visus.com">schreiber@visus.com</a>
Date Prepared	June 03, 2015
Trade Names	JiveX
Common Name	Picture Archiving and Communication Systems (PACS)
Classification Panel	Radiology
CFR Section	21 CFR §892.2050
Device Class	Class II
Product Code	LLZ

### **Safety and Effectiveness Information for Determination of Substantial Equivalence**

#### **Device Description and Intended Use**

JiveX is a software only Picture Archiving and Communication System intended to display, process, read, report, communicate, distribute, store, and archive medical data which is available as DICOM or HL7 data, including mammographic images, and bio signals. JiveX also converts case related non-image documents, archives them as DICOM data and serves as a vendor neutral archive.

TRADITIONAL 510(k) PREMARKET NOTIFICATION SUBMISSION

It supports the physician in diagnosis.

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Typical users of this system are trained professionals, including but not limited to physicians, radiologists, nurses, medical technicians, and assistants.

Note: Web-based image distribution and mobile device display are not intended for diagnostic purposes.

A Communication Server is communicating, storing, and archiving DICOM data and also renders images for the web based image distribution.

Fat clients, rich in rendering and image manipulation functionality, are medical diagnostic and viewing workplaces. When using FDA cleared monitors diagnosis on digital mammography images is possible.

The web based clients are intended for image distribution on either personal computers or mobile devices.

### **Technological Characteristics**

JiveX is a client server solution that is mainly implemented in Java. Clients run on personal computers with MS windows operating systems. The mobile client runs on iPAD. The server also runs on MS Windows operating systems using server hardware either directly or via virtual machines.

JiveX is a software only medical device.

The following table compares JiveX with the predicate devices *syngo.plaza* and JiveX

	<b>SE: <i>syngo.plaza</i></b>	<b>SE: JiveX</b>	<b>JiveX</b>
510(k) number	K132532	K053183	
	SIEMENS AG, Medical Solutions	VISUS Technology Transfer GmbH	VISUS Technology Transfer GmbH
Design / Architecture	client / server	client / server	client / server
Operating systems	MS Windows	Server: Win 2000/XP, Solaris, Linux 2 Client: Win 9x/ME/2000/ NT/XP, Solaris, Linux 2	Server: Win. XP/7/8.1/ Srv. 2003/2008/ 2012 Client: Win. XP/7/8.1
Image communication	TCP/IP, DICOM, proprietary internal image transfer protocol	TCP/IP, DICOM, proprietary internal image transfer protocol	TCP/IP, DICOM, proprietary internal image transfer protocol
Accepted Image Formats	DICOM data	DICOM image data	DICOM data + data accepted as non DICOM and converted to DICOM for storage: PDF, standard and proprietary ECG formats

## TRADITIONAL 510(k) PREMARKET NOTIFICATION SUBMISSION

	<b>SE: syngo.plaza</b>	<b>SE: JiveX</b>	<b>JiveX</b>
Supported storage solutions	Internal storage on RAID. External storage on NAS and any DICOM long term archive	Local storage on HDD/RAID/DVD, Network: SAN, HSM, long term storage solutions	Local storage on HDD/RAID/DVD, Network: NAS, SAN, long term storage solutions
Image data compression	JPEG lossless, JPEG 2000 lossless. Display as received: JPEG lossy, RLE, MPEG-2	JPEG 2000 lossless & lossy, ZIP, JPEG lossy for web clients Display as received: JPEG lossless & lossy, RLE, MPEG-2	JPEG 2000 lossless & lossy, ZIP, JPEG lossy for web clients Display as received: JPEG lossless & lossy, RLE, MPEG-2
Web based access	Yes	Yes	Desktop & mobile devices (not intended for reading)
Virtualization	Yes, VMware	No	Yes, VMware
User administr.	Centralized	Centralized	Centralized
RIS/HIS integration	Via standards HL7 and DICOM, aligned to IHE Framework	Image Call Up from RIS, Patient Information Reconciliation, Instance Availability. Supported Standards: HL7, IHE	Image Call Up from RIS, Patient Information Reconciliation, Instance Availability. Supported Standards: HL7, IHE
Hardware	Windows based, manufacturer independent workstations	Windows/Linux/Solaris based, manufacturer independent hardware	Windows based, manufacturer independent server, workstations and client hardware, iPAD
Image Processing Algorithms	<ul style="list-style-type: none"> <li>- Zoom, Pan, Rotate, Flip</li> <li>- Geometrical Measurements</li> <li>- ROI statistics</li> <li>- Region Calculation for Mammography</li> <li>- 3D Cross Reference</li>   <li>- Interpolation: nearest neighbor, bilinear &amp; bicubic</li> <li>- Windowing and LUT mapping</li> <li>- Image subtraction for Digital Subtraction Angiography</li> </ul>	<ul style="list-style-type: none"> <li>- Zoom, Pan, Rotate, Flip, Magnify</li> <li>- Geometrical Measurements</li> <li>- ROI statistics</li>   <li>- Interpolation: nearest neighbor, bilinear</li> <li>- Filters: sharpen,</li> <li>- Windowing and LUT mapping</li> </ul>	<ul style="list-style-type: none"> <li>- Zoom, Pan, Rotate, Flip, Magnify</li> <li>- Geometrical Measurements</li> <li>- ROI statistics</li> <li>- Mammography auto shutter</li> <li>- 3D Cross Reference</li> <li>- ECG measurements</li>   <li>- Interpolation: nearest neighbor, bilinear</li> <li>- Filters: sharpen, CLAHE</li> <li>- Windowing and LUT mapping</li> </ul>

TRADITIONAL 510(k) PREMARKET NOTIFICATION SUBMISSION

	<b>SE: syngo.plaza</b>	<b>SE: JiveX</b>	<b>JiveX</b>
Image Processing Algorithms 3D	Voxar module: - MPR - Max. Int. Projection - Min. Int. Projection - Volume Rendering - Shaded Surface Display	Voxar module: - MPR - Max. Int. Projection - Min. Int. Projection - Volume Rendering - Volume Rendering	- MPR - Max. Int. Projection - Min. Int. Projection - Volume Rendering - MIP for tomosynthesis data (not for diagnostic use) - 3D image registration
Hanging protocols	Yes	Yes	Yes
Bookmarks	Yes. Findings Navigator	No	Yes: Captures

### **Summary of Non-Clinical Testing**

Verification and validation is done through all development phases and includes

- review of requirements, software design, code
- Review and acceptance of newly implemented functionality
- Daily build of the (intermediate) product and performance of automated tests on unit, component, x-component and UI level
- Verification / validation of “off the shelf software”
- Informal test run of newly developed manual test cases and of functionality on risk
- Evaluation of selected software functionality with customers
- Formal test run of all manual test cases
- Additional impact testing for all changes after start of the formal test run

### **General Safety and Effectiveness Concerns**

Using risk analysis potential hazards are identified. Potential hazards are controlled with design measures in the software and with verification and validation testing.

The device labelling contains instructions for use and any necessary cautions and warnings for safe and effective use.

### **Substantial Equivalence**

JiveX is substantially equivalent to the following commercially available devices:

<b>Manufacturer</b>	<b>Trade Name</b>	<b>510(k) number</b>
VISUS Technology Transfer GmbH	JiveX	K053183
SIEMENS AG, Medical Solutions	syngo.plaza VB10A	K132532

JiveX described in this 510(k) has an equivalent intended use, shares the technological characteristics and provides a similar feature set as the predicate devices.

JiveX does not raise any new issues of safety and efficacy.